

# Work Order ID 91266

**\*91266\***

Page 1

October-05-12 9:13:13 AM

Item ID: 646.9711

Accept

**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Item Name: Blade

Stop **\*NS2\***

Start Date: 10/05/12 Start Qty: 52.00

**\*52\***

Cust Item ID:

Required Date: 10/31/12 Req'd Qty: 52.00

**\*52\***

Customer:

Reference:

Approvals: Process Plan: MLS Date: 12-10-05

Tooling:

Date:

Run Start **\*NR1\***

QC: Date:

SPC (Y/N):

Date:

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
646.9700	N/C

100 0.00

**\*100\***

BAND SAW

Bandsaw

Memo

0.00

Jeaspa Bandsaw

Cut Blank at 4.625"

DAJ  
02 RT 12-10-10 (52)

110 0.00

**\*110\***

HAAS CNC VERTICAL MACHINING #1

HAAS I

Memo

0.00

HAAS CNC vertical machine #1

1-Machine per folio FB135

DWG REV: N/C

FOLIO REV: AA

RT 12-10-13 (52)

2- deburr and break all sharp edges except otherwise noted

# Work Order ID 91266

October-05-12 9:13:13 AM

**\*91266\***

Page 2

Item ID: 646.9711

Accept

**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Item Name: Blade

Stop **\*NS2\***

Start Date: 10/05/12 Start Qty: 52.00

**\*52\***

Cust Item ID:

Required Date: 10/31/12 Req'd Qty: 52.00

**\*52\***

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	QC2- Inspect parts off machine FAI/FAIB	0.00							
<b>*120*</b>									
QC	Memo	0.00							
Quality Control									
130	QC8- Inspect parts - second check	0.00							
<b>*130*</b>									
QC	Memo	0.00							
Quality Control									
140	Outsource process - Heat Treat	0.00							
<b>*140*</b>									
Outsource1	Memo	0.00							
Outsource process - Heat Treat	HEAT TREAT AS PER DWG, SEE NOTE #3								
	ISSUE P/O: <u>18207</u>								

45 12-10-13 (52)

DAS  
25  
9-89 12-10-118

52

C2 12/10/22 (52)



# Work Order ID 91266

October-05-12 9:13:13 AM

**\*91266\***

Page 4

Item ID: 646.9711 Accept **\*N900040100\*** Setup Start **\*NS1\***  
 Revision ID: Stop **\*NS2\***  
 Item Name: Blade  
 Start Date: 10/05/12 Start Qty: 52.00 **\*52\*** Cust Item ID:  
 Required Date: 10/31/12 Req'd Qty: 52.00 **\*52\*** Customer:  
 Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
170 <b>*170*</b> QC Quality Control	QC14- Inspect Spray Paint  Memo	0.00  0.00							
				DAS 16 12/14/20		count (52)			
180 <b>*180*</b> Packaging Packaging	Identify as per dwg & Stock Location: <u>2439</u>  Memo	0.00  0.00							
									(12/11/22) (52)
190 <b>*190*</b> QC Quality Control	QC21- Final Inspection - Work Order Release  Memo	0.00  0.00							
									12/11/22 (52)

MF  
12-11-22

# Picklist Print

October-05-12 9:13:13 AM

Page 1

Work Order ID: 91266

Parent Item: 646.9711

Parent Item Name: Blade

Start Date: 10/05/12

Required Date: 10/31/12

Start Qty: 52.00

Required Qty: 52.00

Comments: IPP REV:A NEW ISSUE 12/09/24 JFS VERIFY BY:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

MSTEEL-A2-  
B0.500X1.250

Purchased

No

100

f

42.0000

0.386

21.128421

AISI A2 TOOL STEEL BAR, 0.500 X 1.250

Location

Loc Qty

Loc Code

MAT

42

123250

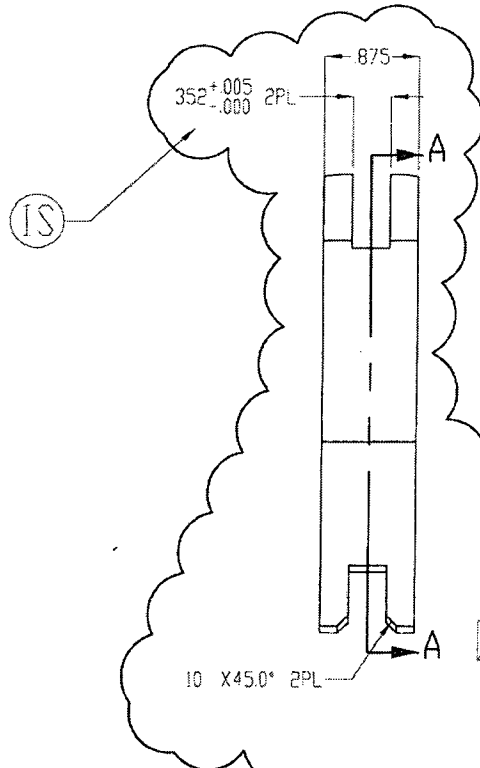
42

12-10-10

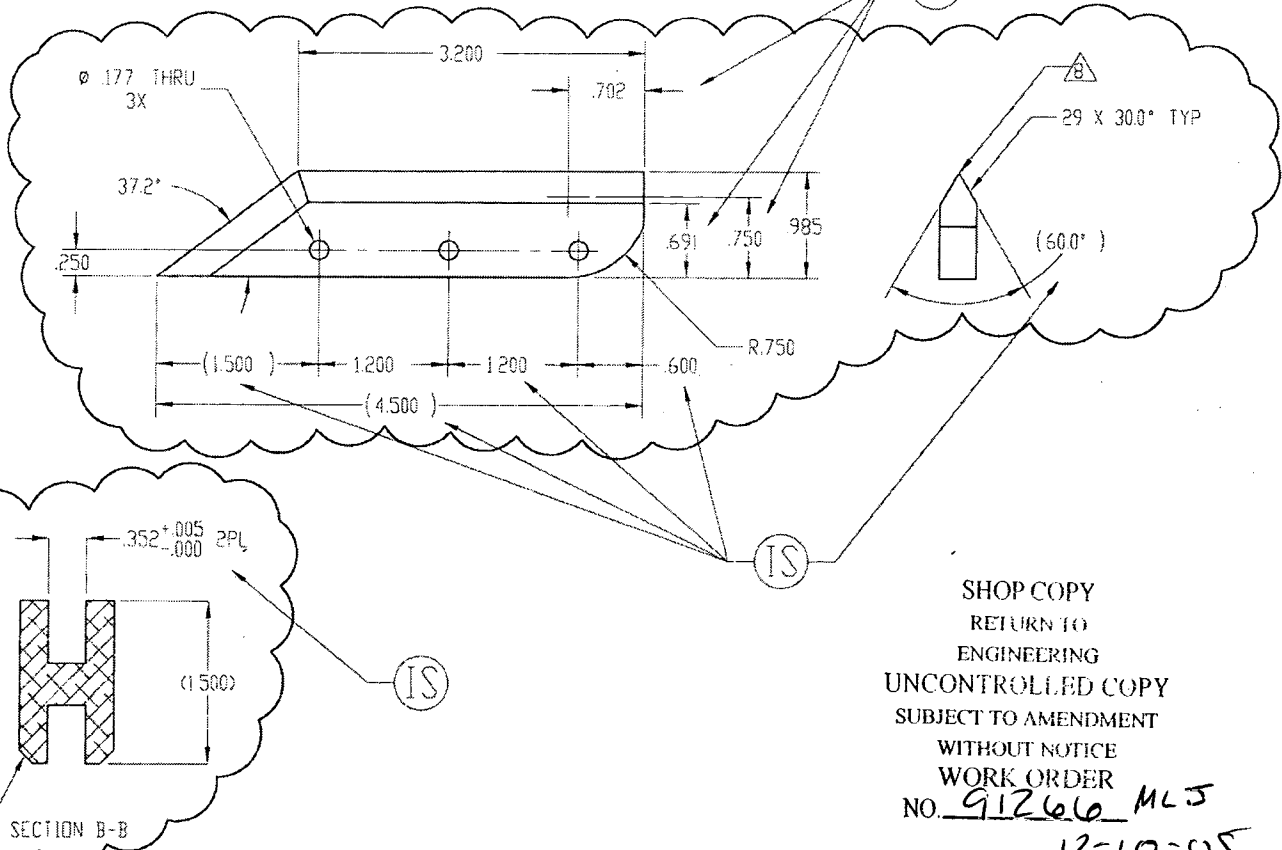
x 21.128421

APICAL INDUSTRIES, INC.	ENGINEERING CHANGE NOTICE NO. 02744		SHEET 1 OF 1	
	DWG NO. 646.9700	REV: N/C	PREPARED BY S. HUFF	DATE: 01/07/10
	EFFECT ON DWG <input type="checkbox"/> INC. <input checked="" type="checkbox"/> UNINC.			
DWG TITLE: CUTTER SUB ASSY				
APPROVED BY: ENGR <i>[Signature]</i>	MFG <i>[Signature]</i>	QC <i>[Signature]</i>	EFF: NEXT ORDER	
TRANSACTION CODES (TC): A-ADD C-CREATE R-REVISE D-DELETE	REASON: REVISED SCREW LENGTH, CHANNEL WIDTHS & DIMENSIONING SCHEME SHEET 5.			

SHEET 2, ZONE C6, IS:



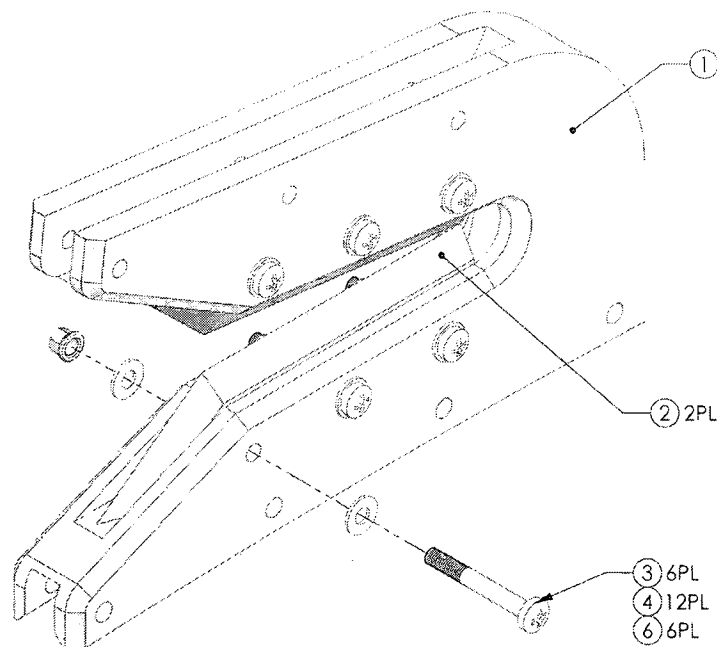
SHEET 5, ZONE C2, IS:



SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 91266 MLJ  
12-10-05

3	R	601.3157	12	SCREW	MS27039-0818
			.9701		
F/N	TC	PART NUMBER	QTY	DESCRIPTION	MATERIAL/SPECIFICATION
DOCUMENTS EFFECTED:				CHANGE CATEGORY	DER REVIEW REQUIRED
<input type="checkbox"/> MDL <input type="checkbox"/> INSTALL INSTRUC <input checked="" type="checkbox"/> ICA <input type="checkbox"/> FMS <input checked="" type="checkbox"/> BOM				<input type="checkbox"/> MAJOR <input checked="" type="checkbox"/> MINOR	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO

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646.9701

# NOTES:

- 1 MATERIAL: ALUMINUM 7075-T651 PER AMS-QQ-A-250/12
- 2 FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III, CLASS 2, COLOR BLACK; CARDINAL 4860-50 PRETREATMENT PRIMER; PRIME IAW MIL-P-23377 J TYPE I CLASS N; 1-2 MIL MAX
- 3 MATERIAL: AISI A2 TOOL STEEL; CONDITION: ANNEALED; POST PROCESS: HEAT TREAT TO 58-62 Rc ROCKWELL HARDNESS
- 4 FINISH: PRIME IAW MIL-P-23377 J TYPE I CLASS N; 1-2 MIL MAX
- 5 DEBURR AND BREAK ALL SHARP EDGES EXCEPT WHERE OTHERWISE NOTED
- 6 IDENTIFY IAW MPP-120
- 7 APPLY F/N 5 AS REQUIRED TO ALL FAYING SURFACES OF F/N 2 UPON ASSEMBLY
- 8 CUTTING EDGE INTENDED TO BE SHARP. DO NOT BREAK SHARP EDGE

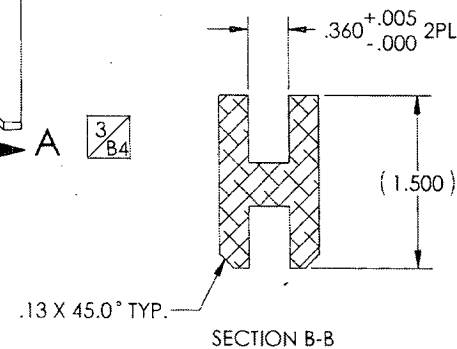
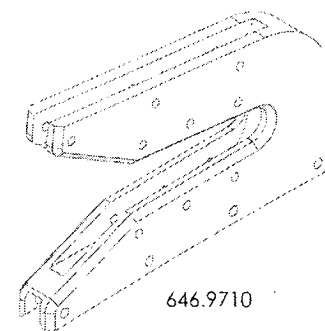
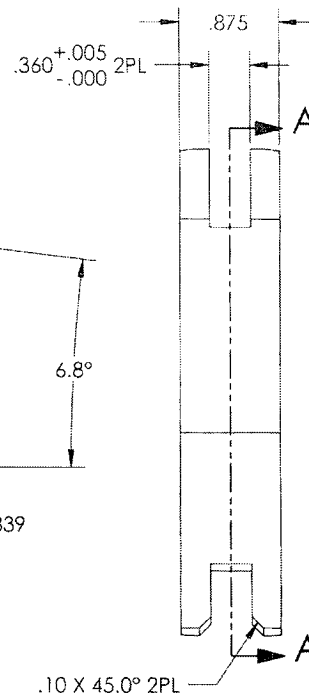
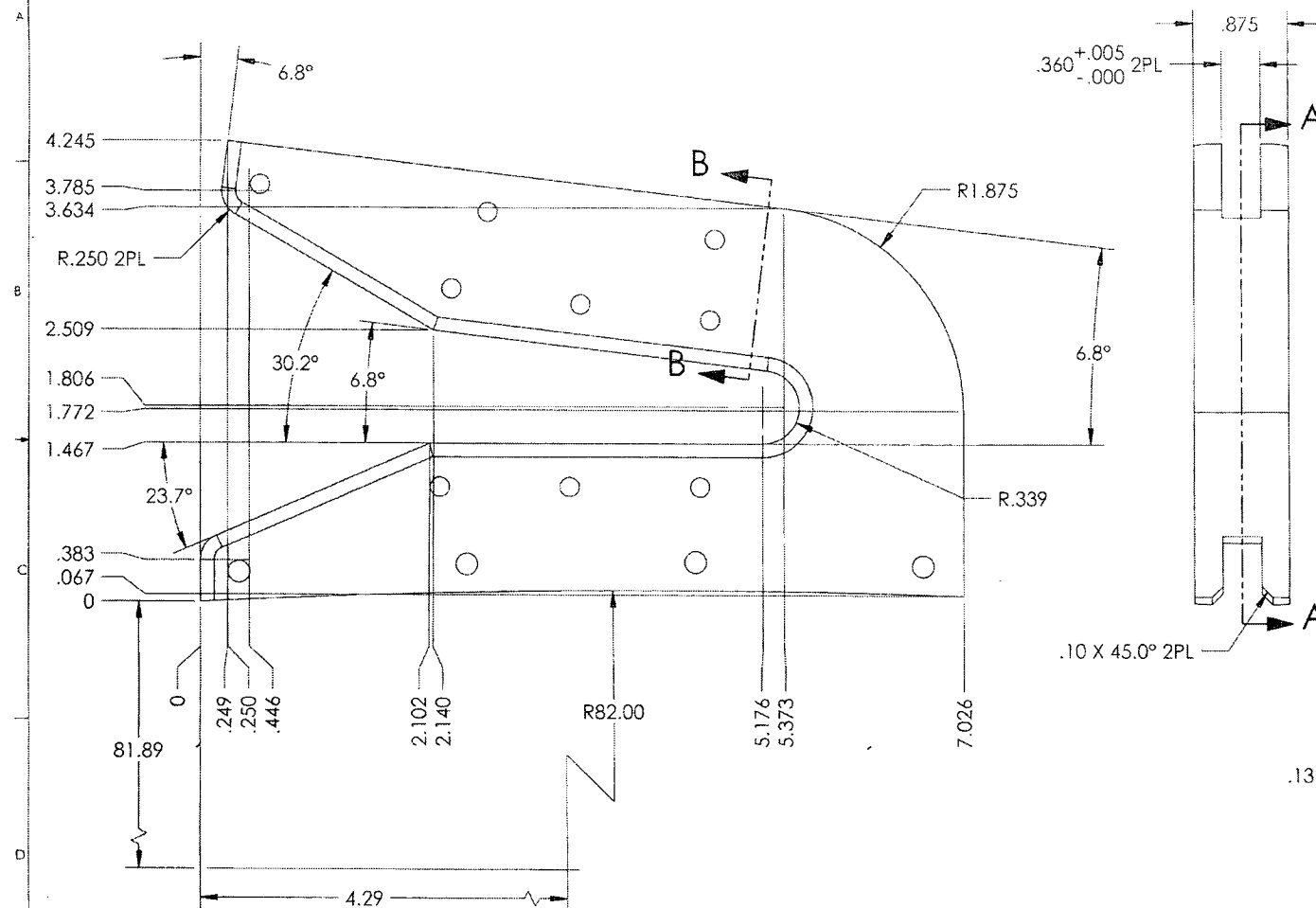
9/26/6

UNINCORPORATED ECN(s)

02744

6	6	601.1541	LOCKWELL	1452104208	
A/R	5	601.2045	RTV, LOCTITE 598		
12	4	601.2764	WASHER	1452104209	
6	3	501.2765	SCREW	1452104210	
2	2	646.9711	BLADE		
1	1	646.9710	BODY		
		646.9701	CUTTER SUB ASSY		
QTY	QTY	QTY	QTY	QTY	QTY
646.9600	646.9600	646.9600	646.9600	646.9600	646.9600
NEXT ASSY (S)			PARTS LIST		
ORIGINAL DATE: 08-27-00			APICAL INDUSTRIES		
DRAWN BY: P. KISHINO			2608 TEMPLE HEIGHTS DR.		
CHECKED BY: P. KISHINO			OCEANSIDE, CA 92056-3512 (760) 724-5300		
APPROVED BY: P. KISHINO			CUTTER SUB ASSY		
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES			SCALE: NONE		
TOLERANCES ARE: .001 INCHES			SHEET 1 OF 5		
3 PLACE DECIMALS ± .01					
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES					
TOLERANCES ARE: .001 INCHES					
3 PLACE DECIMALS ± .01					
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES					
TOLERANCES ARE: .001 INCHES					
3 PLACE DECIMALS ± .01					

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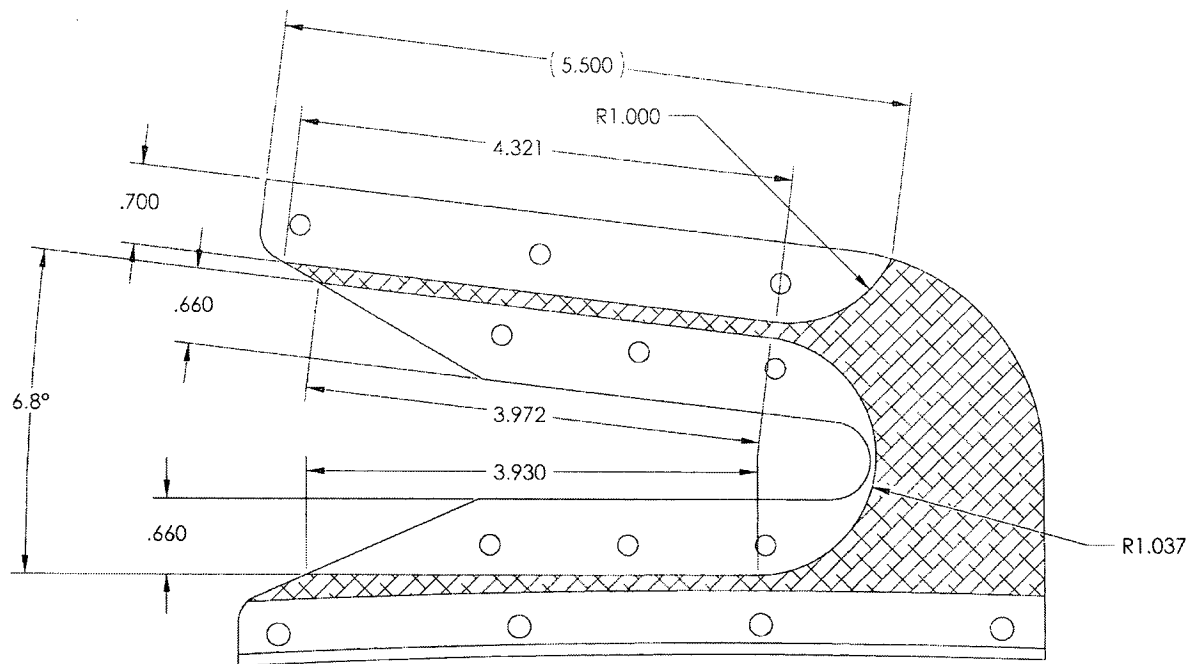
APPROVED DATE	DESIGNED BY	DATE	APICAL INDUSTRIES
DRAWN BY	PROJECT		2608 TEMPLE HEIGHTS DR.
REVISION	BY	DATE	OCEANSIDE, CA. 92056-3512 (760)724-5300
CONTRACT NO.			CUTTER SUB ASSY
UNLESS OTHERWISE SPECIFIED	SIZE	CHG CODE	DWG. NO. 646.9700
DRIVEN/CHG ARE 2 PLACES	B	07M26	REV. 14/C
1 PLACE DECIMALS & 01	SCALE: NONE		SHEET 2 OF 5
3 PLACE DECIMALS & 005			
ANGLES > 9°			

91266



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91266

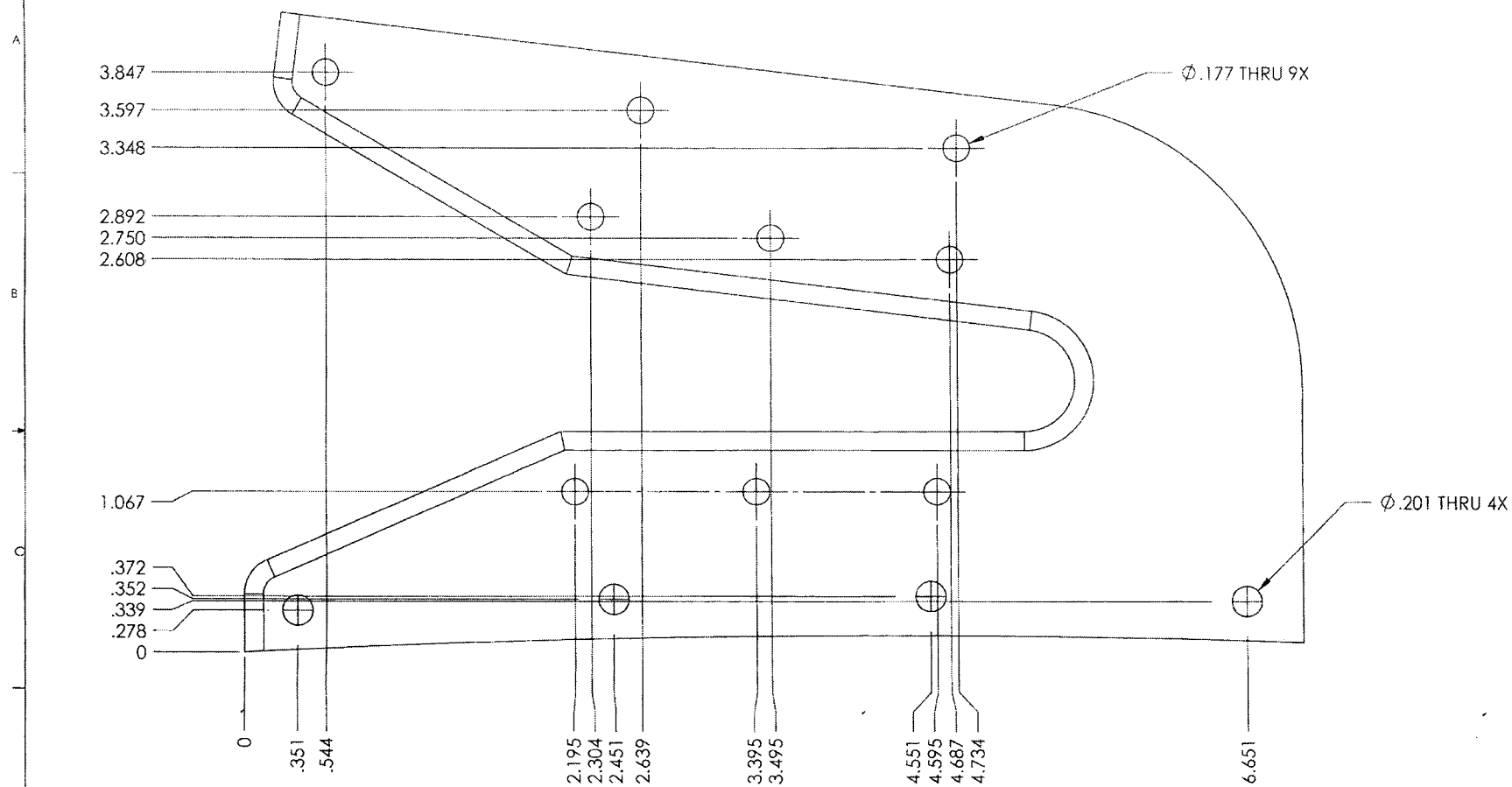


SECTION A-A 

ORIGINAL DATE		APICAL INDUSTRIES	
DESIGNER	DATE	2608 TEMPLE HEIGHTS DR.	
APPRAISER	CHECKER	OCEANSIDE, CA. 92055-3512 (760)724-5300	
W. HOLLAND	P. BULLO	CUTTER SUB ASSY	
DRAWING APPROVAL		REV. 6 07MIG 646.9700	
BY: [Signature]		SCALE: NONE SHEET: 3 OF 5	
UNLESS OTHERWISE SPECIFIED		REV. 6 07MIG 646.9700	
DIMENSIONS AND FINISHES		SCALE: NONE SHEET: 3 OF 5	
TOLERANCES ARE:		REV. 6 07MIG 646.9700	
2 PLACE DECIMALS ±.01		SCALE: NONE SHEET: 3 OF 5	
3 PLACE DECIMALS ±.005		REV. 6 07MIG 646.9700	
ANGLES ±.1°		SCALE: NONE SHEET: 3 OF 5	

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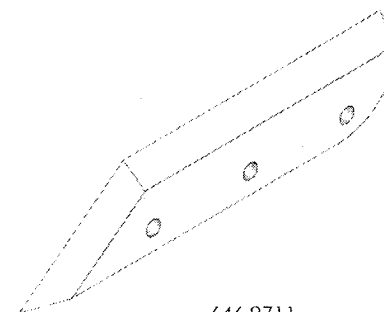
HOLE LOCATIONS +/- .002

ORIGINAL DATE 05-24-09		APICAL INDUSTRIES	
DESIGNED BY P. POZAKO	CHECKED BY P. POZAKO	2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
DRAWING APPROVAL P. POZAKO	CONSTRUCTION NO.	CUTTER SUB ASSY	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ANGLES 1/16" .0005" .0005"		REV. CODE CODE	REV. CODE CODE
		B 07M26	DWG NO 646.9700
		SCALE NONE	SHEET 4 OF 5

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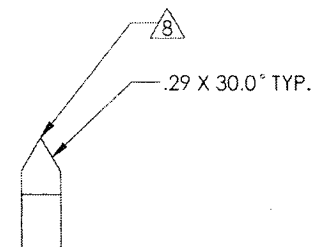
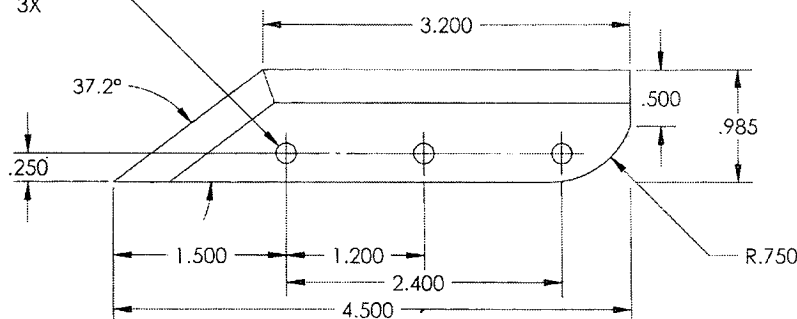
912.66

.340<sup>+.000</sup>  
-.005



646.9711

Ø.177 THRU  
3X



INFORMATION DATE DESIGNED BY: [blank] DESIGNED BY: [blank] DRAWN BY: [blank] DRAWN BY: [blank] CHECKED BY: [blank] CHECKED BY: [blank] APPROVED BY: [blank] APPROVED BY: [blank] CONTRACT NO.: [blank]		<b>APICAL INDUSTRIES</b> 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760) 724-5300	
SUBJECT: CUTTER SUB ASSEMBLY OVERSIGHT: [blank] TOLERANCES ARE: DIMENSIONS IN PARENS ARE: UNLESS OTHERWISE SPECIFIED		SHEET CODE: B DWG. NO: 646.9700 SCALE: NONE	REV: N/C SHEET 5 OF 5

DART AEROSPACE LTD		Work Order:	91266
Description: Blade		Part Number:	646-9711
Inspection Dwg: 646-9700 Rev: N/C		Page 1 of 1	

### FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
.340	+ .000 / - .005	.338	✓			
Ø .177		.177	✓			
3.200	+/- .005	3.202	✓			
.500	+/- .005	.501	✓			
.985	+/- .005	.988	✓			
4.500	+/- .005	4.503	✓			
2.400	+/- .005	2.397	✓			
1.200	+/- .005	1.1985	✓			
1.500	+/- .005	1.500	✓			
.250	+/- .005	.250	✓			
29° x 30.0°	+/- .010 x +/- .5°	29.4 x 30	✓			

Measured by: <i>ST. 02</i>	Audited by: <i>ST</i>	Prototype Approval:	N/A
Date: 12-10-13	Date: 12/10/13	Date:	N/A

Rev	Date	Change	Revised by	Approved
A		New Issue	KJ/JLM	

<b>DART AEROSPACE LTD</b>		<b>Work Order:</b> 91266
<b>Description:</b> 646.9700 Blade		<b>Part Number:</b> 646.9700
<b>Inspection Dwg:</b> 646.9700 Rev: N/C		<b>Page 1 of 1</b>

### FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø.177		.177	✓		ver	25-4
3.200	+/- .005	3.200	✓			
.702	"	.702	✓			
.985	"	.985	✓			
.750	"	.750	✓			
.691	"	.692	✓			
R.750	"	.750	✓			
.600	"	.602	✓			
1.200	"	1.199	✓			
1.200	"	1.199	✓			
.250	"	.251	✓			
37.2	+/- .5°	37°				
<del>.289</del>						
.290	+/- .010	.289	✓			
x 30°	+/- .5°	30°	✓			
.340	+ .000 / - .005	.3365	✓			

<b>Measured by:</b> <i>R</i>	<b>Audited by:</b> <i>mf</i>	<b>Preliminary Approval:</b>
<b>Date:</b> 12 10 15	<b>Date:</b> 12/10/15	<b>Date:</b>

Rev	Date	Change	Revised by	Approved
E	10.04.14	Added preliminary approval	KJ	

*10.04.15*



Dart Aerospace Ltd.  
1270 Aberdeen Street  
Hawkesbury, ON K6A 1K7  
Tel: 613 632 9577  
Fax: 613 632 1053

## PURCHASE ORDER

Purchase Order ID PO18207

Purchase Order Date 10/22/12

PO Print Date 10/22/12

Page Number 1 of 1

Order From :

VC-MET004

METCOR INC.  
560 BOUL. ARTHUR SAUVE  
SAINT-EUSTACHE, QC J7R 5A8  
CA

Contact Name

Vendor Phone

450 473 1884

Vendor Fax

450 491 5498

Vendor Account Nbr

Buyer

Chantal Lavoie

Requisition Nbr

Tax Resale Nbr

10127-2607

Terms

Net 30

Currency

CAD

FOB

Destination-Collect

Ship To :

DART AEROSPACE LTD 1270 ABERDEEN  
HAWKESBURY, ON K6A 1K7  
CANADA

**FAKED**  
10/22/12

Line Nbr	Reference Revision ID Vendor Part Number	Description/ Mfg ID	Req Date/ Taxable	Req Qty/ Unit of Measure	Ship Method	Unit Price	Extended Price
1	91266	646.9711 BLADE	11/02/12 Yes	52.00	FedEx PI collect	\$3.8500	\$200.20

Special Inst: FINISH: HEAT TREAT TO 58-62  
ROCKWELL HARDNESS

PO Total:

\$200.20

CERTIFICATE OF CONFORMITY  
REQ'D UPON DELIVERY

Change Nbr: 1

Change Date: 10/22/12

No substitution or deviation without  
consent.  
Certificate of Conformity or Material  
Certification required **YES** NO

# METCOR INC.

560 BOUL. ARTHUR-SAUVÉ  
ST-EUSTACHE, QC J7R 5A8  
Tel: 450-473-1884 / Fax: 450-491-5498

## Recu de Livraison

Order	Shipper	Shipping Seq.
180454	1	65591

Shipped Complete

**Customer** **215**

**DART AEROSPACE**  
1270 ABERDEEN  
HAWKESBURY, ON K6A 1K7  
Ph: 613-632-5200  
Fax: 613-632-1053

**Shipped To:**

**DART AEROSPACE**  
1270 ABERDEEN  
HAWKESBURY, ON K6A 1K7  
Ph: 613-632-5200  
Fax: 613-632-1053

Purchase Order Number	Customer Shipper No.	Material Type	Order Date	Carrier
PO18207		A2	2012/10/23	CLIENT

Quantity	Part No. / Part Name / Part Description	Pounds
----------	---	--------

52	646.9711 BLADE REFERENCE 91266 BLADE	15,
----	--	-----

CONTENANT: 1 BOÎTE DE CARTON

Container Type	# Of Containers	Container Comments
BOITE DE CARTON	1	

<b>PACKING</b>	
----------------	--

**Quantity Shipped:** 52

**Pounds Shipped:** 15,00

**Quantity Remaining:** 0

**Pounds Remaining:** 0,00

**Quantity Shipped:** 52

**Pounds Shipped:** 15,00

**Signature:**

**Date:**

**Shipped ON: 2012/10/26**

**Metcor Inc.**

560, boul. Arthur-Sauvé, St-Eustache (Québec) J7R 5A8

Tél. 450 473-1884

Télécopieur/Fax administration 450 491-5498

Télécopieur/Fax production 450 491-6454

**Certificat de Conformité**  
Certificate of Compliance

BON DE TRAVAIL order	CHARGEMENT load
180454	1

CLIENT / customer 215

DART AEROSPACE

1270 ABERDEEN

HAWKESBURY

ON K6A 1K7

LIVRÉ À / shipped to:

DART AEROSPACE

1270 ABERDEEN

HAWKESBURY

ON K6A 1K7

1

COMMANDE DU CLIENT customer po	BON DE LIVRAISON DU CLIENT customer shipper no.	MATÉRIEL material	CODE DE TRAITEMENT mat'l heat code	NUMÉRO DE LOT lot number
PO18207		A2		

**SPÉCIFICATIONS DU PROCÉDÉ**  
processing specifications

VAC HARDEN

HARDEN AND TEMPER

S1214/20

EXIGENCE / requirement	SPÉCIFICATIONS / specified	TESTS EXÉCUTÉS / performed	RÉSULTATS DE TESTS / results
HARDNESS	58 - 82 HRC	5	59 - 81 HRC

QUANTITÉ quantity	POIDS weight	DESCRIPTION DES PIÈCES parts description
52	15	848.9711 BLADE REFERENCE 81268 BLADE  CONTENANT: 1 BOÎTE DE CARTON

**COMMENTAIRES / comments**

CERTIFIÉ par / Certified by:



DATE: 2012-10-26

31 OCT.